WHAT IS CLAIMED IS:

1. A pixel device of an electroluminescence device comprising:

a voltage signal having a first state and a second state;

a current signal;

a first circuit further comprising a first transistor, a second transistor and a capacitor, the capacitor including a first terminal coupled to a power supply, the first transistor including a gate electrode coupled to a second terminal of the capacitor, and the second transistor including a gate electrode receiving the voltage signal, wherein the first circuit provides a voltage level across the capacitor in response to the first state of the voltage signal, and maintains the voltage level in response to the second state of the voltage signal; and

a second circuit further comprising a third transistor and a fourth transistor, the third transistor including a gate electrode coupled to a gate electrode of the fourth transistor;

wherein the second circuit provides a current proportional to the magnitude of the current signal in response to the first state of the voltage signal, and the first circuit provides a sum current of the proportional current and the current signal.

2. The device of claim 1, the third transistor having a channel width/length value N times a channel width/length value of the fourth transistor.

3. The device of claim 1, the magnitude of the current signal being N times the magnitude of the proportional current.

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4. The device of claim 1, the voltage level satisfying an equation:

$$(1 + 1/N)\, I = (\mu C_{OX}/2)\, (W/L)\, (|V_C| - |V_T|)^2$$

where μ is the mobility of carriers, C_{OX} is oxide capacitance, W/L is the channel width/length of the first transistor, V_C is the voltage level and V_T is a threshold voltage of the first transistor.

5. The device of claim 1 further comprising a fifth transistor including a gate electrode receiving the voltage signal, and an electrode receiving the current signal.

6. The device of claim 1, the third and fourth transistors are of a same conductive type.

7. The device of claim 5, the second and fifth transistors are of a same conductive type.

8. The device of claim 1 further comprising a light emitting diode disposed between an electrode of the fourth transistor and the power supply.

9. The device of claim 1 further comprising a light emitting diode disposed between an electrode of the fourth transistor and a different power supply.

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10. The device of claim 1 further comprising a light emitting diode disposed between an electrode of the first transistor and the first terminal of the capacitor.

11. A pixel device of an electroluminescence device comprising:

a voltage signal including a first state and a second state;

a current signal of a magnitude I;

a first circuit further comprising a first transistor, a second transistor and a capacitor providing a voltage level across the capacitor in response to the first state of the voltage signal, and maintaining the voltage level in response to the second state of the voltage signal; and

a second circuit further comprising a third transistor and a fourth transistor, the third transistor including a channel width/length value N times a channel width/length value of the fourth transistor;

wherein the first circuit provides a current of (1 + 1/N) I during the first and second states of the voltage signal, and the second circuit provides a current of 1/N I in response to the first state of the voltage signal.

12. The device of claim 11, the voltage level satisfying an equation:

$$(1 + 1/N)\, I = (\mu C_{OX}/2)\, (W/L)\, (|V_C| - |V_T|)^2$$

where μ is the mobility of carriers, C_{OX} is oxide capacitance, W/L is the channel width/length of the first transistor, V_C is the voltage level and V_T is a threshold voltage of the first transistor.

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13. The device of claim 11, the capacitor further comprising a first terminal coupled to a first power supply, and the first transistor further comprising a gate electrode coupled to a second terminal of the capacitor and a first electrode coupled to the first power supply.

14. The device of claim 11, the second transistor further comprising a gate electrode receiving the voltage signal, and a first electrode coupled to the second terminal of the capacitor.

15. The device of claim 11, the third transistor further comprising a gate electrode and an electrode coupled to the gate electrode, and the fourth transistor further comprising a gate electrode coupled to the gate electrode of the third transistor.

16. The device of claim 11 further comprising a fifth transistor including a gate electrode receiving the voltage signal, and an electrode receiving the current signal.

17. An electroluminescence device comprising:

a plurality of scan lines;

a plurality of data lines; and

an array of pixels, each of the pixels being disposed near an intersection of one of the scan lines and one of the data lines comprising:

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a first circuit further comprising a first transistor, a second transistor and a capacitor, the capacitor including a first terminal coupled to a power supply, the first transistor including a gate electrode coupled to a second terminal of the capacitor, and the second transistor including a gate electrode receiving the voltage signal;

a second circuit further comprising a third transistor and a fourth transistor, the third transistor including a gate electrode coupled to a gate electrode of the fourth transistor; and

a fifth transistor further comprising a gate electrode receiving the voltage signal, and an electrode receiving a current signal provided over a corresponding data line.

18. The device of claim 17, the first circuit providing a voltage level across the capacitor in response to a first state of a voltage signal provided over a corresponding scan line, and maintaining the voltage level in response to a second state of the voltage signal.

19. The device of claim 17, wherein the current signal has a magnitude I, the first circuit providing a first current of (1 + 1/N) I during the first and second states of the voltage signal, and the second circuit providing a second current of (1/N) I in response to the first state of the voltage signal, N being the ratio of a channel width/length of the third transistor to that of the fourth transistor.

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20. A method of operating an electroluminescence device comprising:

providing a voltage signal having a first state and a second state;

providing a current signal having a magnitude I;

providing an array of pixels, each of the pixels being disposed near an intersection of one of scan lines and one of data lines;

providing each of the pixels with a first circuit including a first transistor, a second transistor and a capacitor;

providing a voltage level across the capacitor in response to the first state of the voltage signal provided over a corresponding scan line;

maintaining the voltage level in response to the second state of the voltage signal;

providing each of the pixels with a second circuit including a third transistor and a fourth transistor, the third transistor including a gate electrode coupled to a gate electrode of the fourth transistor;

providing a first current of (1 + 1/N) I from the first circuit during the first and second states of the voltage signal; and

providing a second current of (1/N) I from the second circuit in response to the first state of the voltage signal, N being the ratio of a channel width/length of the third transistor to that of the fourth transistor.

21. The method of claim 20 further comprising providing the first current to a light emitting diode during the first state of the voltage signal.

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22. The method of claim 20 further comprising providing the second current to a light emitting diode during the first state of the voltage signal.

23. The method of claim 20 further comprising providing the first current to a light emitting diode during the second state of the voltage signal.

24. The method of claim 20 further comprising providing the second current to a light emitting diode during the second state of the voltage signal.

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